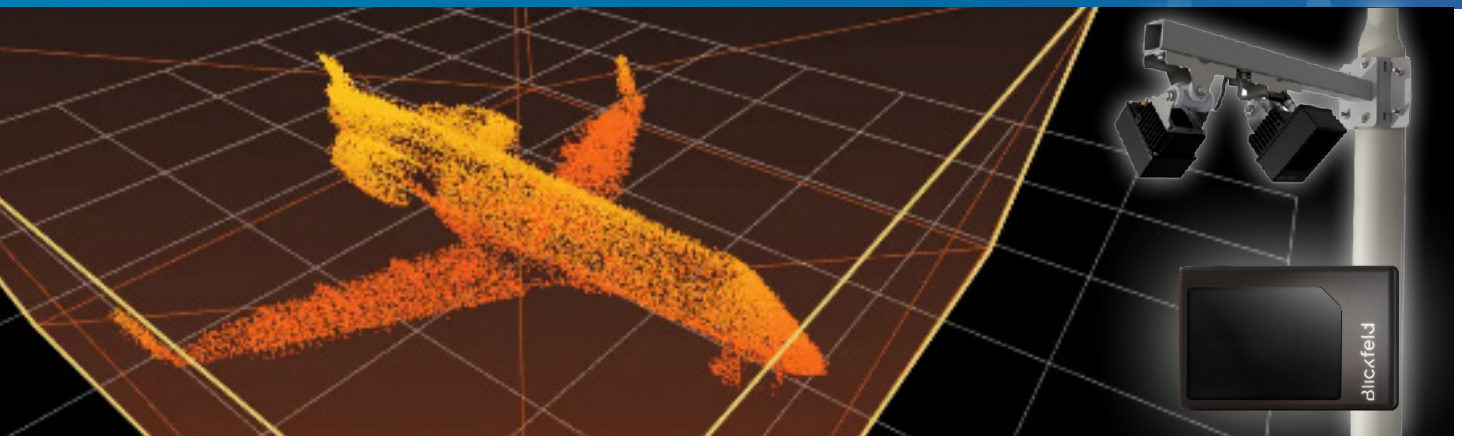
SENSTAR® Smart 3D LiDAR for Security Applications

Blickfeld



Smart 3D LiDAR (Qb2) is designed for advanced physical security applications. Highly accurate on-device processing of 3D point cloud data ensures reliable threat detection and minimizes false alarms. With its weather-resistant design and consistent performance in diverse lighting conditions, this solution is ideal for both indoor and outdoor environments.

TECHNICAL DATA

Technology	3-dimensional Laser Ranging (LiDAR) with edge processing	
Maximum field-of-view (Horizontal x vertical) [a]	90° x 50°	
Max. number of scan lines	1200, configurable	
Coverage [a]	Installation height, tilt angle	Coverage (width x depth)
	3 m / 9.8 ft, 30°	15 x 12 m / 49.2 x 39.4 ft
	5 m / 16.4 ft, 30°	28 x 22 m / 91.9 x 72.2 ft
	10 m / 32.8 ft, 35°	35 x 28 m / 115 x 91.9 ft
	15 m / 49.2 ft, 40°	41 m x 28 m / 135 x 91.9 ft
	20 m / 65.6 ft, 40°	56 m x 45 m / 184 x 148 ft
Typical range precision (1 sigma)	< ±2 cm	
Laser class	Class 1, eye-safe (IEC 60825-1:2014)	
Laser wavelength	Infrared, 905 nm	
Laser beam divergence	0.25° x 0.25°	
Multiple returns	Up to 3, configurable (highest, nearest, furthest)	

Range [b]	Perimeter	Area
Description	Range performance of up to 80 m under typical conditions by focusing on a defined area of interest with a denser scan pattern; ideal for applications like securing fences, facades or larger areas.	Range performance of up to 60 m under typical conditions with a uniform scan pattern across the entire field of view; suitable for gates, entrances or similar applications with homogeneous coverage.
Human (150 x 50 cm)	80 m	60 m
Frame rate	1 – 50 Hz depending on configured scan pattern	
Point spacing	0.25° ; 0.5° ; 0.75°	
Scan pattern	High Density Pattern with ROI [c] 304 scan lines	High Density Pattern 240 scan lines
Mounting height	3 – 8 m (recommended mount, see accessories)	0.5 – 25 m (recommended mount, see accessories)

Embedded Software	
Integrated web interface	Interactive 3D LiDAR point cloud visualization, device configuration and setup, output specification, alarm history and data recording
Alarm types	Pre-alarms, intrusion detection, sabotage / tampering, malfunction detection
Zone management	Security zone configuration, object detection and tracking
Alarm parameters	Object Size (small, human, big), Direction Number of objects / points Alarm / intruding duration Object track length / lifetime Alarm logic (AND/OR/NOT)
Central Processing Unit	Broadcom Quad-core (ARM v8) 64-bit, 1.5 GHz
Integrated Inertial Measuring Unit (IMU)	TDK InvenSense ICM-20600
Protocols	ARP, ICMP, DHCP, DNS, TLS, 802.1X, UDP, NTP, IPv4, IPv6, TCP/IP, HTTP, HTTPS, gRPC, MQTT, RTSP
LiDAR data and IMU	Available via API

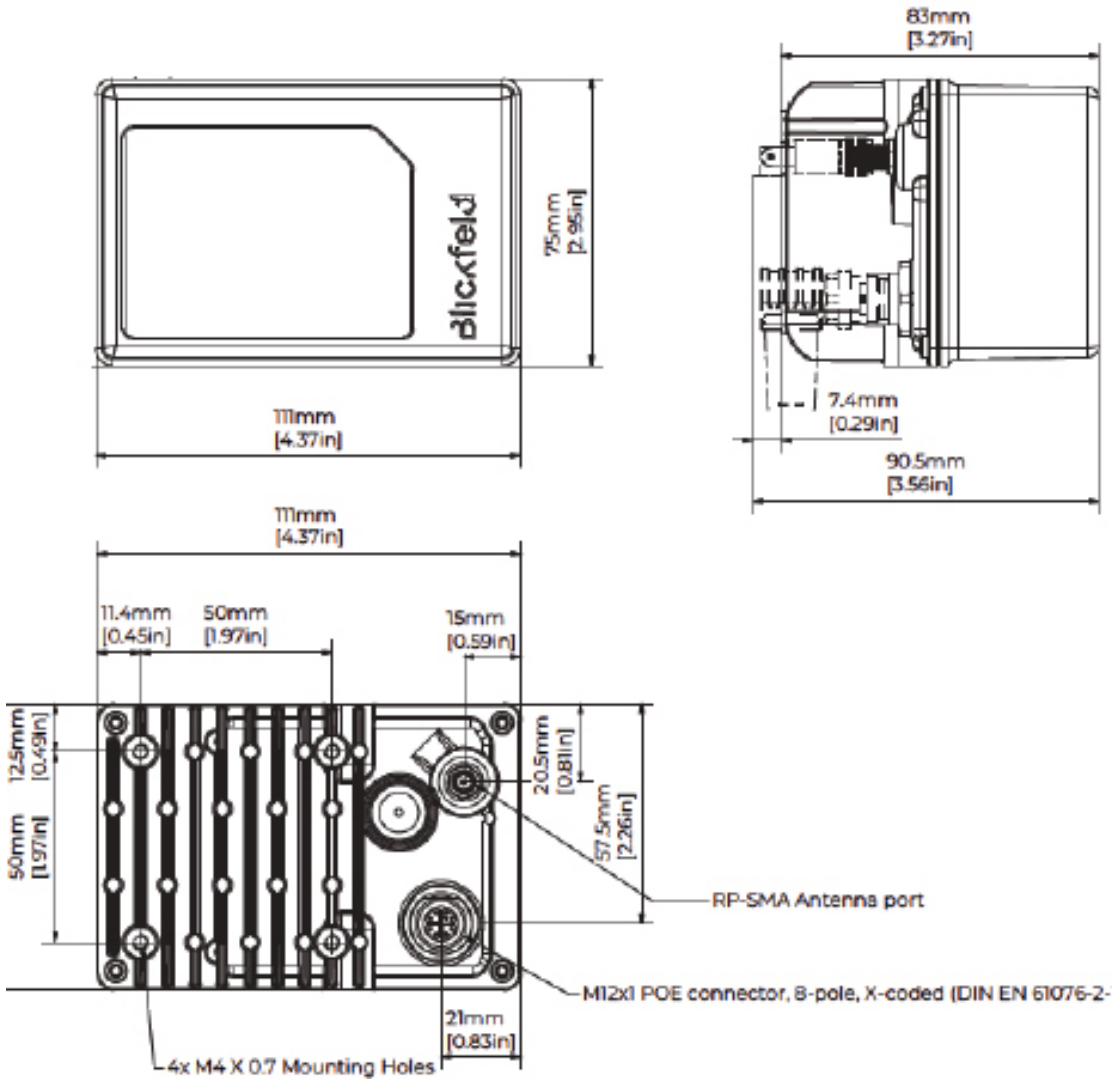
Interfaces	
LAN connection	Ethernet 1000 Base-T (1 Gbit/s)
Ethernet connector [g]	M12x1 Industrial Ethernet connector, 8-pole, X-coded (EN 61076-2-109); IP67
Security	User & API-key authentication (multiple access levels, read-only access), 802.1X & WPA2 (EAP)

Operational	
Dimensions (H x W x D) [d]	75 mm x 111 mm x 83 mm
Weight [d]	535 g
Voltage input	Power over Ethernet (PoE) IEEE 802.3at Type 1
Power consumption	Typical: 10W; maximum 13W
Ingress Protection [e]	IP67 (IEC 60529)
Operating ambient temperature [f] / Storage temperature	–35 to +60 °C / –40 to +60 °C (see note) –31 to 140 °F / –40 to +140 °F
Conformity marks / compliance	CE, UKCA, REACH, FDA, FCC, SRRC, TAA-compliant product variants available upon request

Options & Accessories	
Cable	Matching Ethernet Cable, Length: 3 m. Technical Specifications: M12x1 Industrial Ethernet Connector to RJ45, straight, Cat. 6a, X-coded, 8-pole, UV-resistant, Halogen-free, PUR jacket
WiFi connectivity	2.4 GHz: IEEE 802.11b/g/n Matching WiFi antenna. WiFi operation only permitted with manufacturer-authorized antenna.
Mounting options	Dual sensor mount; Pan-tilt mounting bracket, Weather protection roof add-on

Senstar Ordering Information		
H1SP0100-001	LiDAR Device	LiDAR, 3-dimensional laser ranging sensor with integrated perimeter sensors, alarm logic and threat detection, field of view 90° x 50°, range 80m, laser class 1 (eye-safe), IP67, Power over Ethernet (PoE)
H1SP0201-001	Mounting Solution	Mounting bracket, for outdoor use, for mounting on solid surfaces (wall, ceiling, pole), swivel/tilt, gray
H1SP0202-001	Dual Mount Housing	Dual mounting housing, holder for two LiDAR devices outdoors, weather protection roof, pole mounting, approx. 7kg
H1SP0203-001	Sunshade/ Rainshield	Weather protection roof, for outdoor use, for mounting on LIDAR, gray
H1SP0300-001	Cable 3m	Connection cable, M12x1 Industrial Ethernet plug to RJ45, Cat.6A, X-coded, 8-pin, UV-resistant, halogen-free, length 3m

DIMENSIONS



[a] Non-rectangular Field-of-view

[b] Range performance depends on many factors including but not limited to object reflectivity, orientation, surface texture, ambient light level, and ambient temperature. Reduced accuracy and resolution in small areas of the field of view in close distance to the sensor. Stated numbers measured at 25%.

[c] Configured with 3x density for 8° ROI (region of interest)

[d] Without cables or antenna attached

[e] With antenna and Ethernet cable attached or with protective caps attached.

[f] Continuous operation between -35°C and 60°C. Increased start-up time (max. 30 min) for temperatures below -30°C.

[g] IP67 with cable and protective cap attached.